

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 70.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-005569**Date Inspected:** 02-Mar-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 830**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1630**Contractor:** Japan Steel Works**Location:** Muroran, Japan**CWI Name:** Chung Kuan**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Tower, Jacking and Deviation saddles**Summary of Items Observed:**

Steel Structure Welding Shop:

T1-1 Tower Saddle Casting and Steel Structure Joint Section (base plate FCAW welding): Caltrans QAI representative observed JSW welders in process of FCAW welding on base plate of T1-1. The weld numbers are 7Y-8L, 7Y-5L-2 and 7Y-7L-2. The proper filler metal and shield gas used for FCAW is TM-55, 1.6 diameter with 100% C02. The entire structure remains preheated to temperature minimum 110 C degree during FCAW welding. The FCAW welding process and parameters have been monitored and recorded by CWI inspector Mr. Chung Kuan. Based on Caltrans QA observation, the SMAW root pass welding operation appeared to be in general compliance with requirements of AWS D1.5 2002 and Caltrans contract documents.

W2-W1 West Deviation Saddle Steel Structure: Caltrans QAI representative observed a welder perform FCAW fillet weld processes on upper and lower weld access holes on rib plate 4-17 of W2-W1 west deviation saddle. The filler metal and shield gas used for FCAW is Hoballoy wire TM-95K2, 1.6 diameter with 100% C02. The entire welding zone has been preheated to minimum 110 C prior welding. The FCAW welding process and parameters have been monitored and recorded by CWI inspector Mr. Chung Kuan. Based on Caltrans QA observation, the FCAW fillet weld welding operation appeared to be in general compliance with requirements of AWS D1.5 2002 and Caltrans contract documents.

Casting Shop:

E2W1 East Deviation Saddle Casting (shaping): Caltrans QAI observed one welder perform carbon arc gouging

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(shaping) process on exterior rough surface of rib sides of E2-W1 east deviation saddle after rough machining. The gouging purpose is the exterior rough surface areas are not uniform surface and not able to use machining and remove all of exceed metal from the rib areas. The equipment used for gouging is manual torch with 10mm gouging electrode all made in Japan. The gouging process will continue for two week. Based on Caltrans observation, no discrepancies were noted.

W2-E3 West Deviation Saddle Casting: Caltrans QA observed NIS NDT level II technician perform QC final dry MT test on exterior rough surface of 1U to 8U rib sides after sand blasting. The dry MT test is using the yoke method. The yoke utilized appeared to be model UM 3BF, serial numbers 93-05. The magnetic field was verified with a field indicating gauge (pie gauge). Visible dry red magnetic particles were utilized and made by Magnotron, Japan. The MT test will continue next week. Based on Caltrans QA observation, the MT test operation appeared to be in general compliance with requirements of ASTM standard E709 and Caltrans contract documents.

W2-W1 West Deviation Saddle Casting: Caltrans QAI observed a welder perform grinding process on all of the buildup weld metal after PWHT of W2-W1 west deviation saddle casting. The purpose of grinding is remove all the excess weld metal before NDT performing. Based on Caltrans observation, no discrepancies were noted.



W2W1-Grinding process to remove part of the buildup weld metal on casting portion after PWHT



E2W1-carbon-arc-gouging (shaping) process on exterior rough surface of rib sides

Summary of Conversations:

As noted within the report above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy, (510) 385-5910, who represents the Office of Structural Materials for your project.

Inspected By:	Pau,Wai	Quality Assurance Inspector
Reviewed By:	Lanz,Joe	QA Reviewer
